

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in this application:

Claim 1 (currently amended): A method of detecting binding to or reaction with a selective material, the method comprising the steps of:

- a. providing a sensor comprising:
  - i. a diaphragm comprising a conductive portion, a first face, and a second face;
  - ii. a selective coating on ~~at~~the first face of the diaphragm; ~~and~~
  - iii. a counterelectrode spaced from and in opposition to the diaphragm; ~~and~~
  - iv. a means for equalizing a pressure on each of the first and second faces of the diaphragm,

wherein the diaphragm is configured to deform upon interaction of the selective coating with an analyte ~~deforming the diaphragm~~ and thereby altering a capacitance of the sensor; and
- b. measuring ~~at~~the capacitance of the sensor to determine a degree of interaction between the analyte and the selective coating.

Claim 2 (withdrawn): The method of claim 1 wherein the entire diaphragm is conductive.

Claim 3 (withdrawn): The method of claim 1 wherein the diaphragm is compositionally uniform.

Claim 4 (withdrawn): The method of claim 1 wherein the measurement step comprises comparing the sensor capacitance to a reference capacitance.

Claim 5 (withdrawn): The method of claim 4 wherein the reference capacitance is equal to a capacitance of the sensor in the absence of interaction with the selective coating.

Claim 6 (withdrawn): The method of claim 1 wherein the selective coating comprises a polypeptide.

Claim 7 (withdrawn): The method of claim 6 wherein the selective coating comprises an antibody.

Claim 8 (withdrawn): The method of claim 1 wherein the selective coating comprises an antigen.

Claim 9 (withdrawn): The method of claim 1 further comprising the step of exposing at least the selective coating to a fluid, the measurement step indicating whether an analyte that binds to the coating is present in the fluid.

Claim 10 (withdrawn): The method of claim 9 wherein the fluid comprises a gas.

Claim 11 (withdrawn): The method of claim 9 wherein the fluid comprises a liquid.

Claim 12 (withdrawn): The method of claim 1 wherein the deformation is proportional to a binding energy, which indicates a degree of binding.

Claim 13 (currently amended): A sensor comprising:

- a. a diaphragm comprising a conductive portion, a first face, and a second face;
- b. a selective coating on ~~at the~~ first face of the diaphragm; ~~and~~
- c. a counterelectrode spaced from and in opposition to the diaphragm; and
- d. a means for equalizing a pressure on each of the first and second faces of the

diaphragm.

wherein the diaphragm is configured to deform upon interaction of the selective coating with an analyte ~~deforming the diaphragm~~ and thereby altering a capacitance of the sensor so as to indicate a degree of interaction.

Claim 14 (original): The sensor of claim 13 wherein the entire diaphragm is conductive.

Claim 15 (original): The sensor of claim 13 wherein the diaphragm is compositionally uniform.

Claim 16 (original): The sensor of claim 13 wherein the selective coating covers only a portion of the first face of the diaphragm.

Claim 17 (cancelled)

Claim 18 (currently amended): The sensor of claim ~~47~~13 wherein the pressure-equalizing means comprises perforations through the counterelectrode.

Claim 19 (original): The sensor of claim 13 wherein the coating covers a central half of the first face of the diaphragm.

Claim 20 (original): The sensor of claim 13 further comprising circuitry for reporting presence of the analyte.

Claim 21 (original): The sensor of claim 13 further comprising circuitry for reporting a concentration of the analyte.